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20 WEIGHTED EXERCISE GLOVE

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1 TECHNICAL FIELD

2 The present invention relates to weighted exercise gloves particularly adapted to
3 allow freedom of movement and comfort.

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5 BACKGROUND OF THE INVENTION

6 Weighted hand gloves have been used in a variety of contexts. U.S. Patent Nos.
7 6,279,163 B1; 4,911,433; and 4,830,360 describe weighted gloves that include
8 weights positioned at various points along the hand portion of the glove,
9 including on the back of the hand and on the fingers. While these gloves may
10 provide some exercise for the wrist, hand, or individual fingers, the weights
11 make it more difficult for the wearer to use his or her hands and so interfere with
12 participation in activities such as racquet sports or sports requiring the wearer to
13 throw or catch a ball.

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15 Other types of weighted gloves for use as exercise gloves are disclosed in the
16 following U.S. Patent Nos.: 6,553,574B1; 4,923,418; 4,330,120; 3,124,806; 2,011,362;
17 and 889,397. These gloves likewise employ weights located on the back of the
18 user's hand and, while potentially useful for certain fitness purposes, each
19 restricts or encumbers the motion of the hand or wrist to some degree. In
20 addition, for the glove to provide meaningful exercise to the arms and chest, the
21 user may prefer weights that are heavier than those that can be easily supported
22 by the hand or fingers alone.

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24 The glove embodying the teachings of the present invention is suitable for use by
25 those pursuing a wide range of physical activities. The hand is essentially
26 unencumbered as it fits into a glove similar in nature to a golf or batting glove.

1 Instead of placing the additional weights on the hand or fingers, the glove of the
2 present invention locates the weights around the wearer's wrist. This allows for
3 the essentially unfettered movement of the hand, while permitting the glove to
4 include significantly heavier weights than could be supported if the weights
5 were mounted on the hand or fingers.

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7 **SUMMARY OF THE INVENTION**

8 This invention relates to apparatus for developing, strengthening, and toning
9 arm and upper body muscles. More particularly, it relates to a glove that can be
10 worn when participating in a wide range of exercise and sporting activities, and
11 that helps develop certain arm and upper body muscles. The weights are
12 positioned in such a manner so as to permit free use of the hand and wrist while
13 exercising, so that the wearer can participate in activities such as tennis or
14 baseball that require use of the hands.

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16 An object of the present invention is to provide an improved apparatus for
17 toning and developing muscles of the arms and upper torso.

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19 A further object of the present invention is to provide a flexible weighted glove
20 that does not unduly encumber the hand or fingers with weights and will permit
21 the user to participate in a wide range of athletic activities.

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23 A further object of this invention is to provide a glove that contains weights that
24 are located around the wrist and lower forearm that help to condition muscles of
25 the arm and upper torso when the arm is moved, as in walking, jogging, racket
26 sports, or throwing sports.

1 Another object of this invention is to provide a weighted exercise glove that is
2 comfortable to use and does not extend from the wrist beyond the middle of the
3 forearm.

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5 These and other objects of the invention are attained by means of an exercise
6 glove that covers the hand, wrist, and lower forearm of the wearer and has
7 weights positioned away from the hand that tone and develop arm and upper
8 torso muscles as the arm is moved in the course of normal and regular exercise
9 such as running, walking, tennis, baseball, basketball, and football. The weights
10 are composed of grains or pellets of metal, sometimes known as iron sand,
11 encased in fabric containers. This makes the weights flexible and so more
12 comfortable to wear than more rigid weights.

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BRIEF DESCRIPTION OF THE DRAWINGS

15 FIG. 1 is a perspective view showing the side of the hand and posterior region of
16 the forearm of a person wearing an exercise glove embodying the teachings of
17 the present invention.

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19 FIG. 2 is a perspective view showing the palm of the hand and forearm of the
20 exercise glove embodying the teachings of the present invention.

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22 FIG. 3 is a perspective showing the structure of the chambered weight
23 containment pouch.

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1 FIG. 4 is a cross-section of the exercise glove embodying the teachings of the
2 present invention, viewed from a point near the posterior end of the glove.

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4 FIG. 5 is a cross-section of the exercise glove embodying the teaching of the
5 present invention, viewed from a point near the mid-portion of the glove.

6

7 **DESCRIPTION OF THE INVENTION**

8 The exercise glove of the instant invention is ideally suited for use by a jogger or
9 runner, as well as by persons participating in a wide range of physical activities
10 such as tennis, baseball, basketball, football, squash, platform tennis, cricket,
11 fishing, and non-sports activities. Use of this exercise glove will tone and
12 develop muscles in the arms and upper part of the body. The glove can also be
13 used as a "warm-up" aid for a user who practices a specific activity while
14 wearing the exercise glove and then removes the glove just before the
15 competition begins.

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17 Turning now to the drawings and Figure 1, in particular, the inventive glove
18 embodying the teachings of the present invention is shown being worn upon the
19 right hand and forearm of the user. It should be understood, however, that the
20 inventive gloves are made in pairs and ordinarily when exercising the gloves will
21 be worn in pairs, one on each hand. Although the present invention will be
22 explained in regard to the right-hand glove shown, it should be clear that the
23 left-hand glove is of similar (though mirror-imaged) construction and functions
24 in the same manner to condition muscles on the other side of the body.

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1 The glove contains two sections, referred to herein as the hand section 12, and
2 the forearm section 14. The forearm section resembles a cuff, with one side of the
3 section open longitudinally along the forearm, which makes the glove easier to
4 put on and take off. The forearm section is fastened snugly by means of one or
5 more straps, buckles, or zippers. The two sections are contiguous, and are sewn
6 or fastened together so that the glove substantially encloses the hand and lower
7 part of the forearm.

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9 The glove may be constructed of any one or more suitable, pliable, woven or
10 formed materials that will hold the weights in place and permit the wearer a
11 high degree of normal flexibility. Leather or a leather-like plastic may be used on
12 the palm 16 of the glove to increase the ability of the wearer to grasp and use
13 objects, and over the "fingernail" portions of the four fingers to increase the
14 durability of these points of the glove. The remainder of the glove can be
15 manufactured using a strong, flexible fabric such as neoprene or Lycra or
16 Spandex.

17

18 The forearm section 14 of the glove holds the weights used in the glove and
19 includes a strap and loop, strap and buckle, or zipper mechanism to fasten the
20 glove securely in place. The straps (18 and 32 are examples) can be made from a
21 Velcro®-type material designed to cling to itself, and minimize the rotational
22 movement of the forearm section 14 about the arm. It is important that the glove
23 be securely fastened about the arm so that it moves as little as possible with
24 respect to the arm.

25

26 Fig. 2 shows the relative locations of the straps. In the preferred embodiment the
27 strap 18 comprises two contiguous sections of Velcro®: hook section 26 and loop

1 section 28. The purpose of strap 18 is to secure the glove about the lower
2 forearm and wrist of the user so that the glove moves as little as possible with
3 respect to the arm. Strap 18 is fastened by being passed through a buckle 24 that
4 is connected to the upper portion of forearm section 14 by a strap 22. Once
5 passed through buckle 24, strap 18 is then folded back over itself so that the loop
6 section 28 of the Velcro® meets and engages the hook section 26 of the Velcro®.
7 By adjusting the respective two Velcro® sections 28 and 26, the user can adjust
8 the glove's tension about the user's wrist and lower forearm.

9

10 In the preferred embodiment, strap 32 comprises a single piece of loop section
11 Velcro® 34. Strap 32 is fastened by wrapping it across the open portion of the
12 cuff and engaging a hook section 30 of Velcro® that is attached to the upper
13 portion of the forearm section 14. By adjusting the relative positions of the two
14 Velcro® sections 34 and 30, the user can adjust the glove's tension about the
15 user's forearm.

16

17 The flexible weights, shown in Fig. 3, are preferably comprised of many smaller
18 weights 38 (for example iron disks) packed into a flexible chambered container
19 40. Each flexible chambered container is made of a strong, flexible fabric such as
20 Lycra or Spandex. In the preferred embodiment it is divided into four elongated
21 chambers. Each chamber holds a plurality of metal grains, also known as iron
22 sand, with each grain having a diameter in the range of 1-2mm. The chambered
23 container may alternatively hold a wide range of similarly-sized dense, small-
24 grained matter such as sand, rock, or glass beads. It is important that the grains
25 included in the flexible weight's chambered container are small enough so that
26 the flexible weight can conform itself generally to the shape and diameter of the
27 user's wrist. The grains must be large enough so that they do not seep through

1 the pores or the seams of the flexible chambered container, and small enough so
2 that they move easily when packed into the flexible chambered container. The
3 flexible chambered container 40 is sealed so that the grains do not escape and is
4 inserted into a receiving pocket 20 (Fig. 2) that is contiguous with a portion of
5 forearm section 14.

6

7 After the flexible chambered container is inserted into the receiving pocket 20
8 (Fig. 2) located along the forearm section 14, the receiving pocket is sealed, either
9 permanently or in a recloseable fashion. In the case of a recloseable weight
10 pocket, the user can vary the weight of the exercise glove by replacing one
11 flexible chambered container with another having a different mass.

12

13 Cross-section Fig. 4 shows in more detail the operation of strap 32. The user
14 inserts his hand and lower arm into the glove. When the strap 32 is pulled
15 radially around the glove, the Velcro®-type loops 28 on the lower surface of
16 strap 32 engage the Velcro®-type hooks 30 positioned on the upper surface of the
17 forearm. The Velcro®-type strap 32 provides a wide range of adjustment.

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19 Cross-section Fig. 5 shows in detail the operation of strap 18. The user, having
20 inserted his hand into the glove, passes strap 18 through buckle 24 and then back
21 again towards the glove, so that the loops 28 in strap 18 engage the hooks 26 on
22 the outer portion of the glove.

23

24 Fig. 5 also shows the cross-section of the flexible chambered container 40 when
25 positioned inside the receiving pocket 20 of the present invention.

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1 As can be seen, the weighted glove of the present invention is capable of securely
2 holding the weights to the wearer's arm without impeding the ability of the hand
3 to grasp and manipulate objects or to participate in high-impact physical
4 activities.

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6 The glove is more comfortable to use than other gloves in the prior art that
7 extend further up the forearm or that locate the weights on the hand or fingers.

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9 While this invention has been described with reference to the details as set forth
10 above, it is not limited to the specific structure as disclosed and the invention is
11 intended to cover any modifications or changes as may come within the scope of
12 the following claims.

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